IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of:	)	Group Art Unit: 2624
	)	
Wolfgang RAUSCHER *et al.*	)	Examiner: C. Wang
	)	
Serial Number: 10/535,409	)	*Attorney Docket*: WOLF3003/BEU
	)	
Filed: October 6, 2005	)	<u>Confirmation No.</u>: 6000

For: **Method and Device for Verifying Valuable Documents**

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Honorable Commissioner For Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reasons stated on the attached sheets (no more than 5 pages are provided).

I am the attorney or agent of record.

Respectfully submitted,
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REASONS FOR REQUESTING REVIEW OF THE FINAL REJECTION
(Attachment to Pre-Appeal Brief Request for Review)

Review of the final rejection of claims 1-3 and 11 is requested for the following reasons:

1. <u>Rejection of Claims 1-14 Under 35 USC §101</u>

Reversal of this rejection is respectfully requested on the grounds that claim 1 clearly meets the "machine or transformation" test set forth in the *Bilski* case. Claim 1 recites the steps of:

- *irradiating the value document with light, thereby causing the value document including said luminescent substance to emanate luminescence radiation,* and

- *detecting said luminescence radiation emanating from the value document.*

Thus, claim 1 recites that a value document is irradiated, which **transforms** the value document from a document that does not emanate luminescence radiation into one that does emanate luminescence radiation. In other words, these steps cause the value document, which is an **article or thing** within the meaning of the *Bilski* test, to **transform** from the **state** of non-luminescence to the state of luminescence. Transforming an article from a state in which is does not "glow" into one in which it does "glow" is clearly a physical transformation within the meaning of the *Bilski* test since glowing is clearly a different state than not glowing.

The recited "irradiation" step is clearly not a mental step, a step performed by a general purpose computer, or a step that occurs in nature. There is therefore no logical reason to consider claim 1 to be a non-statutory method claim. When the document is irradiated, the electrons in the authenticity feature are raised to an excited state, and release photons as they return to their previous

Transformation from Non-Luminescent State to Luminescent State

Before

Irradiation
(Act of
Transformation)

After

Non-Glowing
Article

Glowing
Article
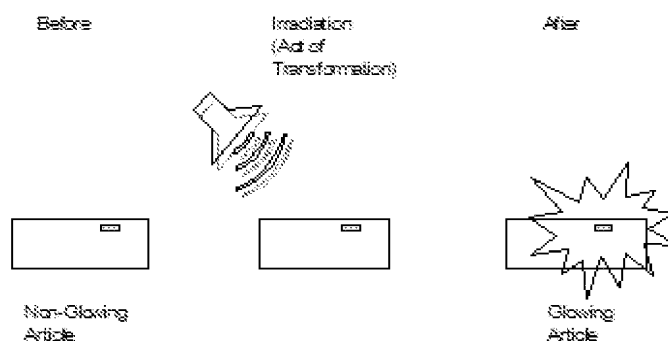
state, which is what causes the substance to luminesce. Radiation, while invisible to a human, is nevertheless a physical entity and irradiating an article, such as a document of value, is just as much a physical process as hitting it with a hammer, subjecting it to flames, or any other traditional process. In the context of the claimed invention, irradiation is central to the process, and not just an insignificant post or pre-solution activity. Without the irradiating step, which can only be carried out by a machine, the remainder of the steps of the claimed process, including the mathematical steps, are completely meaningless.

Recently, the Federal Circuit considered whether administering a drug to a patient and measuring the result involved a "transformation" within the meaning of the *Bilski* machine or transformation test. The conclusion, set forth in *Prometheus Labs. V. Mayo Clinic* (Fed. Cir. 2009), was that administering a drug to a patient involved a transformation. If administering a drug to a patient is a "transformation" within the meaning of the *Bilski* test, then zapping an article with radiation to cause it to glow is certainly a transformation. Since the claims positively recite method steps that transform an article, the "machine *or* transformation" test is met, the claims are statutory and no further structure is required to be recited.

Contrary to the last sentence on page 3 of the final Official Action, the test for statutory subject matter is machine **or** transformation. Structure is **not** a requirement for a method to be statutory so long as a transformation occurs. If structure were a requirement, apart from the transformation prong of the test, then numerous patents directed to series of manufacturing steps, method of use, and so forth, would all be unpatentable, effectively negating an entire statutory category of inventions. For example, under the Examiner's novel requirement for structure *in addition to a transformation*, a method involving cutting a piece of material, shaping the material, heating the material, *etc.,* would be non-statutory unless a knife, sandpaper, oven, or the like were recited. Such a requirement has no basis in either law or common sense.

In summary, irradiating a document of value and causing it to luminesce is clearly a "transformation" within the meaning of the *Bilski* test, and therefore reversal of the rejection of claims 1-14 under 35 USC §101 is respectfully requested.

2.   Rejection of Claims 1-11 and 15 Under 35 USC §103(a) in view of U.S. Patent No. 5,678,677 (Baudat) and U.S. Patent Publication No. 2001/0014169 (Liang)

Reversal of this rejection is respectfully requested on the grounds that the Baudat patent and Liang publication, whether considered individually or in any reasonable combination, fail to disclose or suggest a method of determining whether an authenticity feature is present in a value document by:

- irradiating the document *and* detecting a **luminescence radiation** spectrum emanating from the document (*i.e.*, the claimed "different frequencies and/or frequency domains of the luminance radiation");
- forming a measuring vector from the spectrum; and
- checking whether the measuring vector is located in an "allocation area" corresponding to a given reference vector (the reference vector corresponding to an authenticity feature).

Instead of teaching detection of **luminescence radiation**, the **Baudat** patent teaches detection of an object's **reflectivity**. Furthermore, while the **Liang** publication (which is not cited on any 892 or 1449 form) teaches use of luminescence radiation to authenticate a document, the luminescence radiation is used for **visual authentication** (the document is authenticated when it is juxtaposed with a reference and irradiated) and **not** by actually analyzing the luminescence radiation, much less by object allocation of a measuring vector, as claimed.

As explained in the previous response, Baudat teaches a system for recognizing the denomination of bank notes based on classification of n-dimensional measuring vectors whose components are determined by scanning the surface of the object, *i.e.*, based on a reflectivity of the object's surface. The measuring values are preselected component-wise in order to exclude forgery in a preprocessing step (performed by the "preliminary processing system" described in

3

col. 4, lines 43-65 of the Baudat patent), and the remaining vectors are then, in a subsequent classification step, allocated to **pattern classes** i defined by target vectors W_i, which represent possible **denominations** of the bank note. Allocation of the vectors to the class is carried out by using a minimum distance classifier, as described in col. 6, lines 32-50, since the measuring vector X is assigned to the class i whose target vector W_i has the minimal distance to the measuring vector X according to a predetermined metric. Thus, the Baudat patent merely discloses comparing measuring values and classes to find the closest class, without performing the additional *positively claimed* steps of generating allocation areas corresponding to the reference vectors and checking whether the measuring vectors are within the allocation areas.

Although Liang teaches that identifiers can fluoresce, it also does not teach analysis of fluorescence radiation by generating allocation areas corresponding to the reference vectors and checking whether the measuring vectors are within the allocation area. NO reference of record teaches such generation of allocation areas and checking whether the measuring vectors are within the allocation area. The proposed modification therefore could not have been based on the teachings of either reference, on general knowledge of the ordinary artisan, or even on "common sense" pursuant to the *KSR* decision. To the contrary, the difference between the claimed method and that taught by Baudat is the result of a fundamental difference in the way the respective luminescence spectra and reflectivity patterns are analyzed. Instead, of locating measuring vectors, Baudat automatically assigns a measuring value to the closest pattern class. Because every note has a denomination, Baudat assumes that whatever class the measuring values are closest to is in fact the class to which the measuring values belong (once the note has been determined to be authentic in a preprocessing step). Baudat therefore does consider the possibility that the measuring vector might not be in any class, since this possibility if addressed in an entirely separate preprocessing step that does not determine denomination or any other feature of the scanned note, but rather merely determines whether processing should continue.

It is true that col. 4 of Baudat mentions an "allocation," but the "allocation" described in col. 4 of the Baudat patent has nothing to do with the claimed "allocation." Instead, the

allocation described in col. 4 of Baudat is part of a preprocessing step that is entirely separate from the class assignment step used to determine denomination. The preprocessing step is used solely to determine if the processing should continue, and does not result in any identification of an authentication feature, much less a classification depending on luminescent spectra or allocation of measuring *vectors* based on the spectra to areas that correspond to reference values. In Baudat, if the measuring values are outside different areas, then the document is a forgery, and further processing is ended. Unlike the claimed allocation areas, the relevant areas of Baudat do not correspond to reference vectors and do not identify any particular features. Instead, if the measuring values are inside any area, then the method of Baudat proceeds to find the closes pattern class. **At no time does Baudat check whether the measuring values are in *one* of a plurality of areas in order to determine the presence of a feature corresponding to the area**. Since **Liang** does not perform any quantitative analysis of the radiation, there is no way that the Liang publication could possibly make up for this fundamental difference between the quantitative analysis methods of Baudat and the claimed invention. Accordingly, the Examiner has not set forth a *prima facie* case of obviousness, and reversal of the rejection of claims 1-11 and 15 under 35 USC §103(a) is requested.

3. Rejection of Claims 12-14 Under 35 USC §103(a) in view of U.S. Patent Nos. 5,678,677 (Baudat) and 7,330,606 (Yakhini)
This rejection also should be reversed on the grounds that the Yakhini patent, like the Baudat patent and Liang publication, fails to disclose or suggest a method of determining whether an authenticity feature is present in a value document by detecting a **luminescence radiation** spectrum emanating from the document; forming a measuring vector from the spectrum; and checking whether the measuring vector is located in an "allocation area" corresponding to a given reference vector (the reference vector corresponding to an authenticity feature), as recited in claim 1, from which claims 12-14 depend. Instead, Yakhini is directed to an method for evaluating the orientation of a molecular array obtained by scanning the molecular array to determine data signals emanating from discrete positions on a surface of the array.